

IESNA LM79: 2008 Photometric Test Report

Photometric Testing and Evaluation in Accordance with LM 79-2008

Report Prepared For

Francisco Garza

Product Manager

MaxLite

Description of Sample: QM3AU7T550 Quadromax 3 module type5. L 15" X W 13"

The Sample (s) was (were) tested in accordance with the following applied standards/regulations:

IESNA LM79: 2008 Approved for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products.

ANSI C82.77:2002 Harmonic Emissions Limits – Related Power Quality Requirement for Light Equipment.

CITL Test Number: CITL0001202

Sample Arrival Date: 09/21/2015

Date of Test: 09/25/2015

Report Issue Date: 10/1/2015

Report Prepared By:



Franklin Navarro
Lab Technician

Report Approved By:



Juan Xiang
Lab Manager

Sample Number: 1133

Manufacturer: MaxLite

Notes: Tested in intended orientation



Equipment Used:

Description	Model #	Serial #	Calibration Date	Calibration Due Date
Goniophotometer	GO-R5000	G116930CS1341112	09/03/15	03/03/16
EVERFINE AC POWER SUPPLY	DPS1060	G1174227A8341115	-	-
YOKOGAWA POWER ANALYZER	WT310	C2Q522012V	11/17/14	11/17/15
DC POWER SUPPLY	WY12010	G115909TM5341117	-	-
EVERFINE AC POWER SUPPLY	DSP1005	G119890CJ7341122	-	-
DC POWER SUPPLY	WY305	G115986TA8341112	-	-
INTERGRATING SPHERE	2 METER	CITL 0018	06/22/15	12/22/15
YOKOGAWA POWER ANALYZER	WT310	C2QJ22011V	11/17/14	11/17/15
FLUKE DIGITAL THERMOMETER	51II	29390172WS	04/09/15	04/09/16
TEMPERATURE AND HUMIDITY LOGGER	MX1101	10689441	03/20/15	03/20/16
TEMPERATURE AND HUMIDITY LOGGER	UX100-023	10683270	03/20/15	03/20/16

LM-79 Test Summary:

Manufacture:	MaxLite
Model Number:	QM3AU7T550
Driver Model Number:	OT100W/UNV/800C/2DIMLT2/P6
Lamp:	LUXEON TX

Electrical Measurement:

Input Voltage:	120VAC	277VAC
Input Current:	0.682 A	0.303 A
Input Frequency:	60 HZ	60 Hz
Input Power:	82.58 W	80.7 W
Power Factor:	0.9936	0.9606
Total Harmonic Distortion:	3.02 ATHD	4.7 ATHD

Lumen Output:

Lumens:	9060 Lm	Lm
Efficacy:	111.10 Lm/W	Lm/W
Color Rendering Index *(CRI)	Ra: 73.2 R ₉ : 0	Ra: R ₉ :
Correlated Color Temperature (K):	4932	
Chromaticity Coordinate x:	0.3469	
Chromaticity Coordinate y:	0.3518	
Ambient Temperature (°C):	25°C	
Stabilization Time (Hours):	45 Mins	
Total Operation Time (Hours):	1 Hrs	
u/u':	0.2126	
V':	0.4851	
Duv:	6.30e-04	
Spacing Criteria (0-180)	2.22	
Spacing Criteria (90-270)	2.14	
Zonal Lumens in the 0°-60° Zone	4,319.2lm – 47.7%	
Zonal Lumens in the 60°-90° Zone	4,736.4lm – 52.3%	
Zonal Lumens in the 0°-90° Zone	9,055.6lm – 99.9%	
Zonal Lumens in the 90°-120° Zone	3.4lm – 0%	
Zonal Lumens in the 90°-180° Zone	4.6lm – 0.1%	
BUG (Back, Up, Glare) Rating	B3-U1-G2	

Test Methods:

Photometric Measurements – Goniophotometer:

An Everfine Type C Rotating Mirror Goniophotometer was used to measure candelas (intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 60 minutes and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measure using the listed equipment.

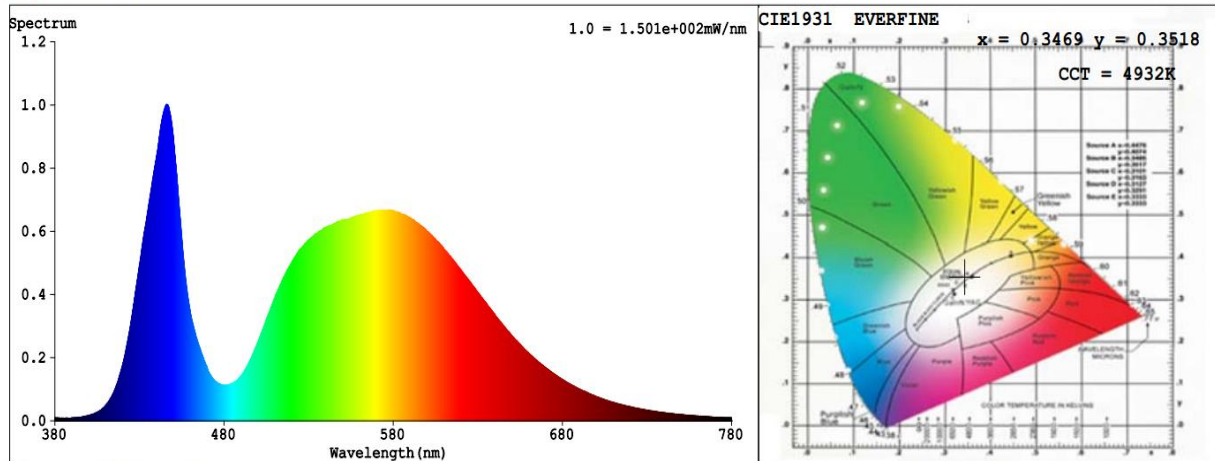
Spectral Measurements – Integrating Sphere

A sensing Spectrometer HASS-2000, in conjunction with Everfine 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature (CCT) and the color rendering index (CRI) for each sample. Test Geometry Configuration 4 π .

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30 min and longer if necessary for the sample to achieve stabilization

Electrical measurements are measured using the listed equipment.

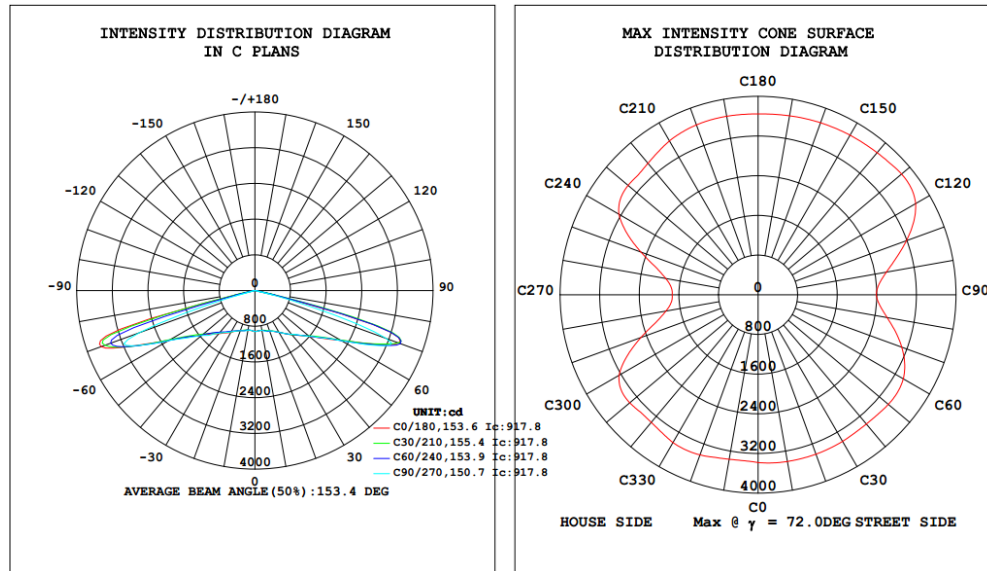
Spectrum



Spectral Distribution

CIE1931 Chromaticity Diagram

STREETLIGHT PHOTOMETRIC TEST REPORT:



ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total	lum, lamp
10	906.8	903.8	906.6	898.3	905.0	895.3	900.8	900.7	0- 10	86.04	86.04	0.95, 0.95
20	967.2	964.6	960.2	969.5	959.7	964.9	958.0	963.9	10- 20	264.3	350.4	3.87, 3.88
30	1077	1075	1077	1074	1080	1062	1067	1060	20- 30	468.3	818.7	9.04, 9.07
40	1289	1291	1279	1257	1258	1221	1241	1267	30- 40	732.7	1551	17.1, 17.2
50	1595	1570	1595	1552	1545	1508	1568	1623	40- 50	1092	2643	29.2, 29.3
60	2231	2266	2247	2298	2217	2278	2246	2378	50- 60	1677	4320	47.7, 47.9
70	3437	3401	3141	3656	3671	3504	2771	3500	60- 70	2878	7197	79.4, 79.8
80	83.73	159.9	68.40	193.1	92.24	146.4	54.04	151.3	70- 80	1815	9012	99.5, 99.9
90	0.0237	0	0.0298	0	0	0.0859	0	0.2885	80- 90	43.35	9055	99.9, 100
100	0.2717	0.7422	0	0.6776	1.295	0.8718	0.6727	0.9397	90-100	0.1615	9055	100, 100
110	1.902	1.610	1.072	1.613	2.174	2.012	2.147	2.084	100-110	1.467	9057	100, 100
120	2.107	1.271	1.409	1.343	1.695	2.080	1.741	2.283	110-120	1.818	9059	100, 100
130	0.7492	0.2004	0.8089	0.0665	0.3361	0.5381	0.1342	0.8066	120-130	0.9440	9060	100, 100
140	0.3379	0	0.2693	0	0.2003	0.0688	0	0.2034	130-140	0.1937	9060	100, 100
150	0.0679	0	0.0671	0	0	0	0	0.0672	140-150	0.0415	9060	100, 100
160	0	0	0	0	0	0	0	0.0672	150-160	0.0103	9060	100, 100
170	0	0.0671	0	0	0	0	0.0671	0.0670	160-170	0.0046	9060	100, 100
180	0.0679	0	0	0	0	0.1341	0.0671	0.2016	170-180	0.0043	9060	100, 100
DEG	LUMINOUS INTENSITY: cd									UNIT: lm		

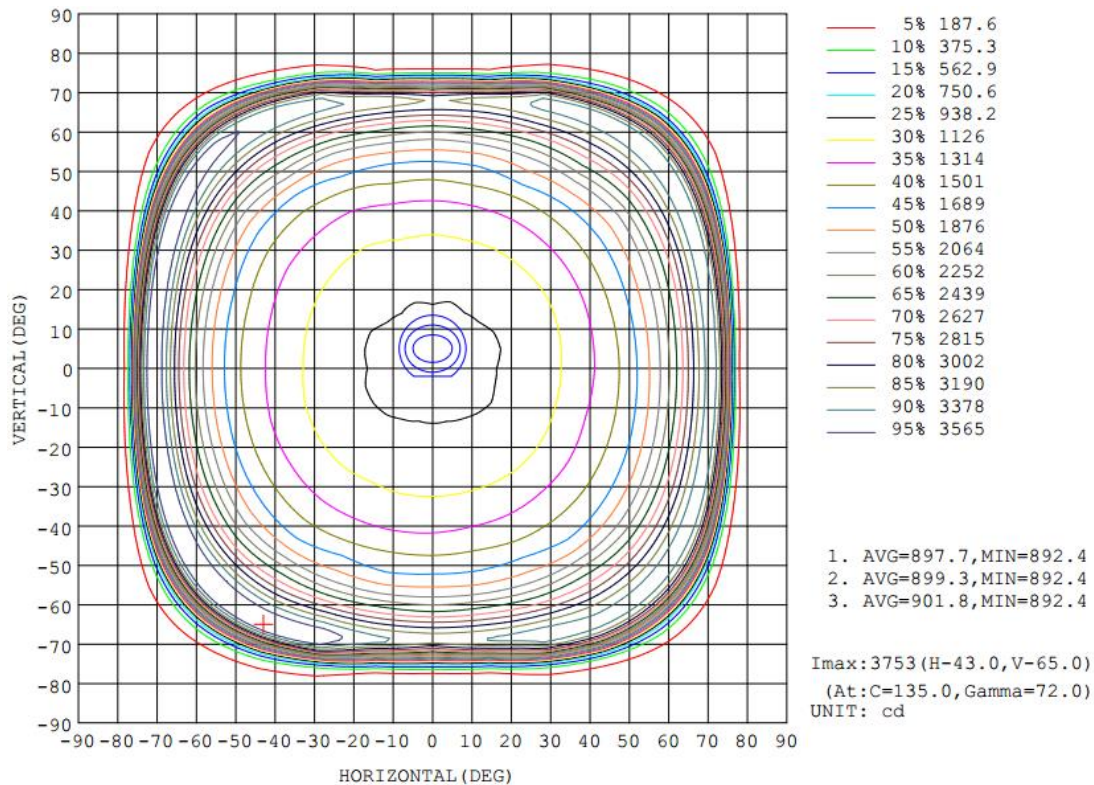
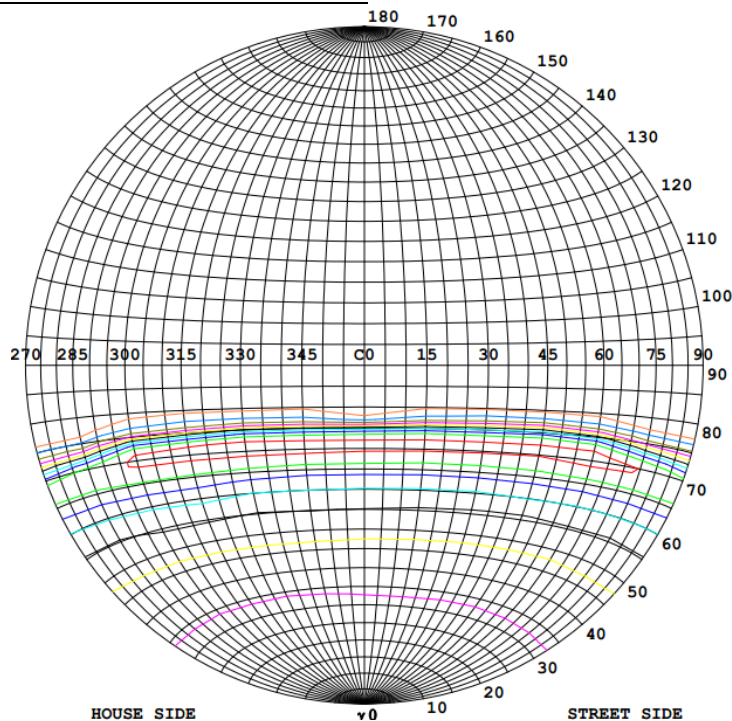


Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	818.7	9%
0-40	1,551.4	17.1%
0-60	4,319.2	47.7%
60-90	4,736.4	52.3%
70-100	1,858.5	20.5%
90-120	3.4	0%
0-90	9,055.6	99.9%
90-180	4.6	0.1%
0-180	9,060.3	100%

Lumens Per Zone

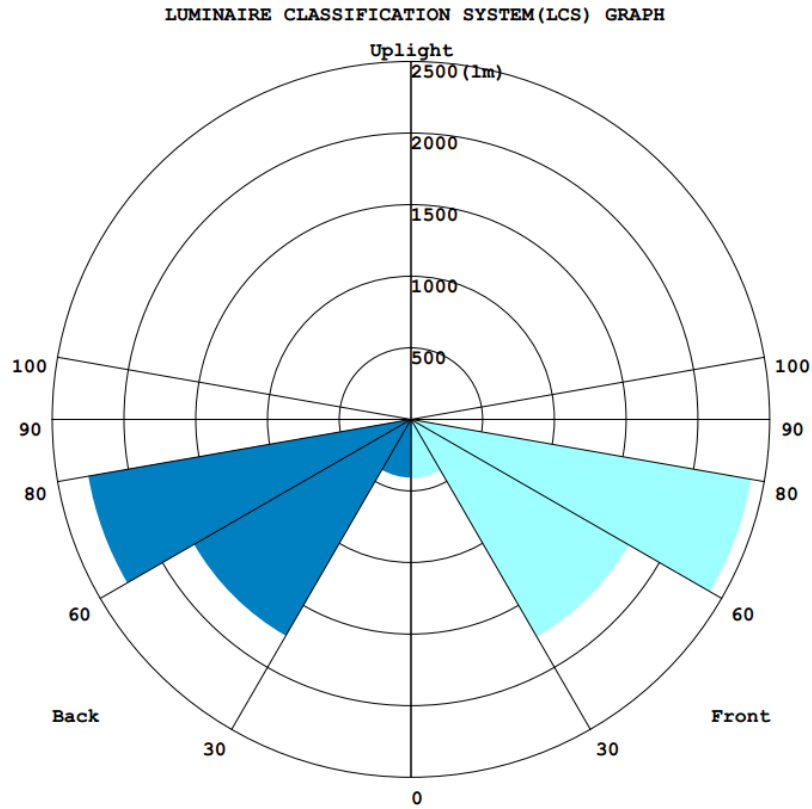
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	86.0	0.9%	90-100	0.2	0%
10-20	264.4	2.9%	100-110	1.5	0%
20-30	468.3	5.2%	110-120	1.8	0%
30-40	732.7	8.1%	120-130	0.9	0%
40-50	1,091.5	12.0%	130-140	0.2	0%
50-60	1,676.4	18.5%	140-150	0.0	0%
60-70	2,878.0	31.8%	150-160	0.0	0%
70-80	1,815.0	20.0%	160-170	0.0	0%
80-90	43.4	0.5%	170-180	0.0	0%

ISOCANDELA DIAGRAM:

STREETLIGHT ISOCANDELA DIAGRAM:

Classification:

IES: Type V - Short
 CIE: Broad - Long
 IES: Cut-off
 CIE: Semi-cut-off
 Max. At80: 21.41cd/klm
 Max. At90: 0.0407cd/klm
 Max. 80-90: 21.41cd/klm

ISOCANDELA DIAGRAM	
UNIT	cd
Imax=100%	3758
90%	3383
80%	3007
70%	2631
60%	2255
50%	1879
40%	1503
30%	1128
20%	752
10%	376
5%	188

LCS REPORT:



*****End of Report*****